## REMARKS

By the present amendment, claims 29 and 30 were cancelled and new claims 54-59 were added. Therefore, claims 1, 21-28, and 31-59 are pending. Claims 1, 21, 31, 32, 33, 45 and 46 were amended. Entry of these amendments is respectfully requested to place the present application into condition for allowance.

Independent claims 1, 33, and 45 were amended to clarify the attachment orientation of the metal strips on the resistor body. As seen in the drawings, the length of the metal strip electrodes extend along the width of the resistor body. Accordingly, claims 1, 33, and 45 now recite the metal strip electrodes as having a length equal with a width of the resistor body.

The Examiner's allowance of claims 33-44 is appreciated. By this Amendment, independent claim 45 was amended to recite two bonding electrodes, which are part of the allowable subject matter recited in allowed independent claim 33. The cited prior art does not teach or suggest all the features recited in amended claim 45, including at least the two bonding electrodes, in addition to the two electrodes of metal strips of flat tetragonal shape. For at least these reasons, claims 45-53 are also now in condition for allowance.

Independent claim 1 was amended to recite the additional features of the insulation layers on both surfaces of the resistor, wherein "another" insulation layer ***entirely*** covers the surface of the resistor body opposite the surface having the electrodes. Specific advantages of these features are disclosed, for example, at pages 18-19 of the subject specification. The cited art does not teach or suggest, either alone or in combination, at least these further features. For instance, Smejkal et al has an insulation layer 62 on the surface the resistor body without the electrodes 30, 32 that cannot extend to cover the entire surface of the resistor body due to the extension of the solder coating 68. Such features ***teach away*** from the present claimed invention of claim 1. For at least these reasons, claims 1, 21-28, and 31-32 are also in condition for allowance.

New claims 54-59 were added. The cited art does not teach or suggest, either alone or in combination, all the features recited in each of the new claims.

For instance, independent claim 54 recites two bonding electrodes, in addition to the two metal strip electrodes of flat tetragonal shape. Claim 54 is allowable since it recites at least part of the allowed subject matter of claim 33.

Independent claim 55 recites two insulating layers, wherein one layer entirely covers the surface of the resistor body without the electrodes. This feature distinguishes over the cited prior art for the same reasons that amended claim 1 distinguishes over the cited art.

Independent claim 56 recites a current path in the resistor body that is straight and uniform ***everywhere*** between the electrodes. The prior Office Action relied upon the further reference to Szwarc et al. for this feature. However, the cited portion of Szwarc (col. 1, lines 30-35) relied upon for rejecting this feature, merely discloses minimizing the length of trimming cuts to avoid hot spots at points where the current makes a turn of 180 degrees. Indeed, the mere fact that Szwarc contemplates the current taking a *turn* of 180 degrees **teaches away** from a straight and uniform current path in the resistor body, everywhere between the two electrodes.

Independent claim 57 is a method claim for forming a resistor. It recites attaching two metal strip electrodes extending along a width of the resistor body, as well as removing a portion of the resistor body along a length of the resistor body. The cited art discloses the conventional trimming to form cutouts in the resistor body. Such cutouts typically cut through the thickness of the resistor body, as well as extending into the resistor body (along its width). As discussed, for example, on page 9 of the subject specification, such conventional cutouts change the current distribution. In contrast, with the claimed invention of claim 58, the precision of the resistor is retained.

Claims 58 and 59 recite further details of the removal of the portion of the resistor body that are not taught or suggested by the cited art. For instance, claim 58 recites

shaving off a portion of the thickness of the resistor body. This is done after the electrodes are attached to the resistor body, thereby distinguishing over the cited art design choice selection of resistor bodies of various thicknesses prior to attachment of electrodes.

Claim 59 recites removing an edge portion of the resistor body along the length of the resistor body (defined in claim 57). Cited prior art cutouts simply do not correspond to such removal of an edge portion in the direction claimed.

In view of the foregoing, it is submitted that the subject application is now in condition for allowance and early notice to that effect is earnestly solicited.

A drawing correction was submitted to add the "Prior Art" label to Fig. 7, as requested by the Examiner. Thus, the drawing objection should be withdrawn.

An Information Disclosure Statement including one reference is concurrently filed herewith. The Examiner's consideration and return of a signed Form PTO-1449 is respectfully requested.

Should the examiner deem that any further action by applicants would be desirable to place the application in better condition for allowance, the examiner is encouraged to telephone applicants' undersigned attorney.

In the event this paper is not timely filed, the undersigned hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

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Version with Markings to Show Changes Made

1. (Four Times Amended) A low resistance value resistor comprising:

a resistor body comprised by a resistive alloy;

at least two electrodes, comprised by metal strips of flat tetragonal shape having a high electrical conductivity, each of said metal strips having a ~~same width~~ length equal with a width of said resistor body, and affixed on one surface of the resistor body separately wherein a diffusion layer is formed at an interface between the resistor body and the metal strip or in an interior of the resistor body under the metal strip;

~~a fused solder layer having a thickness of 2-10 μm on each surface of the electrodes; and~~

~~a straight and uniform current path formed in the resistor body between said at least two electrodes~~

an insulation layer covering a portion of said surface of the resistor body defined between said electrodes; and

another insulation layer entirely covering another surface of said resistor body opposite to the surface of the resistor body having the electrodes.

21. (Amended) A low resistance value resistor according to claim 1, ~~wherein~~ further comprising a fused solder layer having a thickness of 2-10 μm on each surface of the

electrodes, said fused solder layer ~~is~~ being formed by fused solder material of Sn:Pb=9:1 (weight %) or lead-free solder material.

31. (Amended) A low resistance value resistor according to claim ~~29~~ 1, wherein said insulation layer comprises one of epoxy resin, an acrylic resin, a fluorine resin, a phenol resin, a silicone resin, and a polyimide resin.

32. (Amended) A low resistance value resistor according to claim ~~30~~ 1, wherein said another insulation layer comprises one of epoxy resin, an acrylic resin, a fluorine resin, a phenol resin, a silicone resin, and a polyimide resin.

33. (Amended) A low resistance value resistor comprising:

a resistor body comprised by a resistive alloy;

at least two electrodes, comprised by metal strips of flat tetragonal shape having a high electrical conductivity, each of said metal strips having a ~~same width~~ length equal with a width of said resistor body, and affixed on one surface of the resistor body separately wherein a diffusion layers is formed at an interface between the resistor body and the metal strip or in an interior of the resistor body under the metal strip;

two bonding electrodes disposed at both ends of a surface of the resistor body opposite to the surface having the electrodes; and

a straight and uniform current path formed in the resistor body between said at least two electrodes.

45. (Amended) A low resistance value resistor comprising:

a resistor body comprised by a resistive alloy;

at least two electrodes, comprised by metal strips of flat tetragonal shape having a high electrical conductivity, each of said metal strips having a ~~same width~~ length equal with a width of said resistor body, and affixed on one surface of the resistor body separately, wherein a diffusion layer is formed at an interface between the resistor body and the metal strip or in an interior of the resistor body under the metal strip; and

~~a fused solder layer having a thickness of 2-10 μm on each surface of the electrodes;~~

~~two wire sites disposed at both ends of a surface of the resistor opposite to the surface having the electrodes; and~~

~~a straight and uniform current path formed in the resistor body between said at least two electrodes~~

two bonding electrodes disposed at both ends of a surface of the resistor body opposite to the surface having the electrodes.

46. (Amended) A low resistance value resistor according to claim 45, ~~wherein~~ further comprising a fused solder layer having a thickness of 2-10 μm on each surface of

the electrodes, said fused solder layer ~~is~~ being formed by fused solder material of Sn:Pb=9:1 (weight %) or lead-free solder material.